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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/359,920	07/22/1999	HOWARD GREEN	H0535/7009(E)	3457

7590 07/07/2004
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EXAMINER

NAFF, DAVID M

ART UNIT	PAPER NUMBER
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1651

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/359,920

Applicant(s)

GREEN ET AL.

Examiner

David M. Naff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 55,57,66,67,71,74,75,78,79,83,86-90,101 and 104-119 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 66,67,83,88-90,101,109-112 and 116-119 is/are rejected.
- 7) ☒ Claim(s) 55,57,66,67,71,74,75,78,79,83,86-90,101 and 104-119 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/20,1/28,5/19/04</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 5/19/04 has been entered.

Claims examined on the merits are 55, 57, 66, 67, 71, 74, 75, 78, 79, 83, 86-90, 101 and 104-119 which are all claims in the application.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

Claims 55, 57, 66, 67, 71, 74, 75, 78, 79, 83, 86-90, 101 and 104-119 are objected to because of the following informalities: in line 5 of claim 55 and where occurring in other claims, "antiglaucoma agent" of the Markush group should be changed to --- anti-glaucoma agent --- to be consistent with other members of the Markush group. Appropriate correction is required.

Claim Rejections - 35 USC § 103

Claims 66, 67, 83, 109-112, 116 and 117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geffard (WO 96/15810) (corresponds to 6,114,388) in view of Gershoni (5,770,572).

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The claims are drawn to a composition containing a conjugate of a nonextracellular matrix protein nonlabeling agent and a polymer having at least three contiguous lysines attached to one another by peptide bonds and being a substrate for transglutaminase. The agent is
5 selected from an anti-nerve gas agent, an anti-neurotoxin agent and an anti-glaucoma agent, and the agent is not a substrate for transglutaminase.

Geffard discloses polylysine conjugated to a molecule for use in treatment of a medical condition such for treatment of a toxic
10 neuropathy (col 1, line 12 of the corresponding U.S. Patent).

Gershoni discloses preparing molecular decoyants that prevent the formation of ligand-receptor complexes by binding pathogenic or toxic agents *in vivo* that are involved in forming the complex. The decoyant can be the peptide R4137 (col 6, lines 21-36) that binds snake venom
15 neurotoxin (col 4, lines 1-5) that exerts its toxic effect by blocking the binding of cholinergic ligands to the nicotinic acetylcholine receptor (paragraph bridging cols 1 and 2, and col 2, lines 3-25). Other decoyants may be used (col 7, lines 31-49) such as a decoyant that inhibits forming the ligand-receptor pair, organophosphate-
20 acetylcholine esterase, to relieve the effects of nerve gas (col 10, lines 16-21).

It would have been obvious to use as the molecule conjugated to polylysine as disclosed by Geffard a decoyant molecule that inhibits the effect of snake neurotoxin or relieves the effects of nerve gas as
25 disclosed by Gershoni since the treatment of Geffard may be for toxic

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neuropathies. The polylysine of Geffard will inherently be a substrate for transglutaminase, and a decoyant molecule such as R4137 disclosed by Gershoni will not be a substrate for transglutaminase.

Claim Rejections - 35 USC § 103

5 Claims 88-90 and 119 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 66, 67, 83, 109-112, 116 and 117 above, and further in view of Richardson et al (5,490,980) and Green et al (5,525,336).

10 The claims require a kit containing a package housing, a first container containing the composition of claim 66 or the composition of a claim depending on claim 66 such as claim 109, and a second container containing transglutaminase.

15 Richardson et al and Green et al disclose using transglutaminase to crosslink proteins together such as to crosslink a protein to tissue such as skin to provide a therapeutic effect.

20 It would have been obvious to provide the composition of Geffard when modified as set forth above in the form of a kit in combination with transglutaminase to obtain its effect as disclosed by Richardson et al and Green et al. Having the transglutaminase and the composition in separate containers would have been obvious to prevent reaction with transglutaminase before use. A kit would have been obvious to facilitate transport and use of the composition.

Claim Rejections - 35 USC § 103

25 Claim 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 66, 67, 83, 109-

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112, 116 and 117 above, and further in view of Shafferman et al (EP 0 651 055 A2).

The claim requires the agent to be cholinesterase or phosphodiesterase.

5 Shafferman et al disclose administering a recombinant cholinesterase to detoxify a subject exposed to a toxic phosphorylating agent such as nerve gas (see abstract).

10 When modifying Geffard as set forth above by coupling to polylysine a decoyant molecule that relieves the effects of nerve gas as suggested by Gershoni, it would have been obvious to substitute a recombinant cholinesterase for the decoyant molecule as suggested by Shafferman et al to relieve the effects of nerve gas.

Claim Rejections - 35 USC § 103

15 Claim 118 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geffard in view of Viegas et al (5,958,443).

The claim requires the agent to be an antiglaucoma agent.

Geffard is described above.

Viegas et al disclose (col 19, line 63) a drug delivery composition containing an antiglucoma drug.

20 It would have been obvious to use as the molecule coupled to polylysine disclosed by Geffard an antiglucoma drug as suggested by Viegas et al to obtain the known effect of the drug on glaucoma.

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Conclusion

Claims 55, 57, 71, 74, 75, 78, 79, 86, 87, 104-108 and 113-115 are free of the prior art.

Any inquiry concerning this communication or earlier

5 communications from the examiner should be directed to David M. Naff whose telephone number is 571-272-0920. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 571-272-10 0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained 15 from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-20 9197 (toll-free).



David M. Naff
Primary Examiner
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